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Health Update: Recommendations for Antiviral Treatment and Prophylaxis of Influenza, 8 Sept. 2009

Action requested: CDC today published updated guidance for treatment and prophylaxis of influenza. The guidance is consistent with existing recommendations with more detail provided, particularly around PEP. Recommendations may change as additional data become available. Key points are below, please review the full guidance (attached, and at http://www.cdc.gov/h1n1flu/guidance/) for important details including dosing information for adults, children, infants & pregnant women.

Background: As of August 2009, more than 98% of circulating influenza viruses were 2009 H1N1 viruses susceptible to both oseltamivir and zanamivir, and 2009 H1N1 influenza viruses likely will be the most common influenza viruses circulating in the coming season. However, the timing and intensity of seasonal vs. 2009 H1N1 circulation cannot be predicted. These treatment guidelines therefore focus on use of antiviral medications effective against 2009 H1N1 viruses. The recommendations should be used together with clinical judgment in making treatment decisions for both patients who are at higher risk for influenza-related complications and patients who are not at higher risk.

Summary - treatment

- Treatment with oseltamivir or zanamivir is recommended for all persons with suspected or confirmed influenza requiring hospitalization.
- Treatment with oseltamivir or zanamivir generally is recommended for persons with suspected or confirmed influenza who are at higher risk for complications. Groups at higher risk for 2009 H1N1 influenza complications are similar to those at higher risk for seasonal influenza complications (children < 5 years old, adults 65 years and older, pregnant women, persons with certain chronic medical or immunosuppressive conditions, and persons < 19 years who are receiving long-term aspirin therapy).
    - When evaluating previously healthy children with possible influenza, clinicians should be aware that, similar to seasonal influenza, the risk for severe disease is likely to be highest among infants and children <2 years of age.
    - An April 2009 Emergency Use Authorization authorizes the emergency use of oseltamivir in children < 1 year old (http://www.cdc.gov/h1n1flu/eua/), subject to the terms and conditions of the EUA.
- Pregnant women with suspected or confirmed influenza should receive prompt antiviral therapy. Pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. Because of its systemic activity, oseltamivir is preferred for treatment of pregnant women. The drug of choice for chemoprophylaxis is less clear. Zanamivir may be preferable because of its limited systemic absorption; however, respiratory complications that may be associated with zanamivir because of its inhaled route of administration need to be considered, especially in women at risk for respiratory problems.
- Preliminary studies suggest that people who are morbidly obese (BMI $\geq$ 40) and perhaps people who are obese (BMI 30-39) may be at increased risk of hospitalization and death due to 2009 H1N1 influenza infection. Such patients often have underlying conditions that put them at increased risk for complications, such as diabetes, asthma, chronic respiratory illness or liver disease. Patients with obesity or morbid obesity should be carefully evaluated for the presence of underlying medical conditions that increase the risk for influenza complications, and receive empiric treatment when these conditions are present, or if signs of lower respiratory tract infection are present.
- Persons who are not at higher risk for complications or do not have severe influenza requiring hospitalization generally do not require antiviral medications for treatment or prophylaxis. However, any suspected influenza patient presenting with warning symptoms (e.g., dyspnea) or signs (e.g., tachypnea,

unexplained oxygen desaturation) for lower respiratory tract illness should promptly receive empiric antiviral therapy.

- Treatment should be initiated as early as possible because studies show that treatment initiated early (i.e., within 48 hours of illness onset) is more likely to provide benefit.
- Treatment should not wait for laboratory confirmation of influenza because laboratory testing can delay treatment and because a negative rapid test for influenza does not rule out influenza. The sensitivity of rapid tests can range from 10 % to 70%.
- Some experts have advocated use of increased (doubled) doses of oseltamivir for some severely ill patients, although there are no published data demonstrating that higher doses are more effective.
- **Actions that should be taken to reduce delays in treatment initiation include**:
    - Informing persons at higher risk for influenza complications of signs and symptoms of influenza and need for early treatment after onset of symptoms of influenza (i.e., fever, respiratory symptoms);
    - Ensuring rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness;
    - Considering empiric treatment of patients at higher risk for influenza complications based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated.
    - In selected circumstances, providers might also choose to provide selected patients at higher risk for influenza-related complications (e.g., patients with neuromuscular disease) with prescriptions that can be filled at the onset of symptoms after telephone consultation with the provider.
- Patients receiving treatment should be advised that they remain potentially infectious to others while on treatment. Despite treatment with antiviral agents, patients may continue to shed influenza virus for up to four or more days after beginning therapy. Therefore, patients should continue good hand washing and respiratory hygiene practices during the entire period on therapy to prevent the transmission of virus to close contacts. Information about homecare of ill persons for providers and patients is available at http://www.cdc.gov/h1n1flu/guidance_homecare.htm and http://www.cdc.gov/h1n1flu/guidance_homecare_directions.htm

Summary - chemoprohylaxis

- Antiviral chemoprophylaxis generally should be reserved for persons at higher risk for influenza-related complications who have had contact with someone likely to have been infected with influenza.
- The infectious period for persons infected with the 2009 H1N1 virus appears to be similar to that observed in studies of seasonal influenza. Infected persons may shed influenza virus, and potentially be infectious to others, beginning one day before they develop symptoms to up to 7 days after they become ill. Children, especially younger children, can shed influenza virus for longer periods. However, for this guidance, the *infectious period* for influenza is defined as one day before until 24 hours after fever ends.
    - **Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir can be considered for the following**:
        - Persons who are at higher risk for complications of influenza and are a close contact of a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period.

- Health care personnel, public health workers, or first responders who have had a recognized, unprotected close contact exposure to a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period.

- Antiviral agents should not be used for post exposure chemoprophylaxis in healthy children or adults based on potential exposures (outbreaks) in the community, school, camp or other settings.
- Chemoprophylaxis generally is not recommended if more than 48 hours have elapsed since the last contact with an infectious person.
- **An emphasis on early treatment is an alternative to chemoprophylaxis after a suspected exposure for some persons**. Persons with risk factors for influenza complications who are household or close contacts of confirmed or suspected cases, and health care personnel who have occupational exposures, can be counseled about the early signs and symptoms of influenza, and advised to immediately contact their health care provider for evaluation and possible early treatment if clinical signs or symptoms develop.
- Patients given post-exposure chemoprophylaxis should be informed that the chemoprophylaxis lowers but does not eliminate the risk of influenza and that protection stops when the medication course is stopped. Patients receiving chemoprophylaxis should be encouraged to seek medical evaluation as soon as they develop a febrile respiratory illness that might indicate influenza. Duration of post-exposure chemoprophylaxis is 10 days after the last known exposure to 2009 H1N1 influenza.

Additional information and resources

- Please see the complete CDC updated antiviral recommendations at http://www.cdc.gov/h1n1flu/guidance/
- Adverse events from influenza antiviral medications should be reported through the U.S. FDA Medwatch website, http://www.fda.gov/Safety/MedWatch/default.htm
- Information on FDA's Emergency Use Authorization for the emergency use of oseltamivir in children younger than 1 year old, http://www.cdc.gov/h1n1flu/eua/
- Public Health – Seattle & King county H1N1 web page, www.kingcounty.gov/health/h1n1